

CLAIMS

What is claimed is:

1. A processor-implemented method, comprising:
 - 5 forming a plurality of data connections between an associated plurality of processor arrangements and a first processor arrangement that are coupled via a network, each data connection having an associated network identifier;
associating respective dynamic transport identifiers of the first processor arrangement with the plurality of data connections;
 - 10 permitting association of duplicate dynamic transport identifiers of the first processor arrangement with two or more of the data connections; and
resolving a destination for data received at the first processor arrangement from the two or more data connections based on the associated dynamic transport identifier and network identifier.
- 15 2. The method of claim 1, wherein the data connections comprise transmission control protocol (TCP) connections.
3. The method of claim 2, wherein the dynamic transport identifiers comprise
20 TCP ports.
4. The method of claim 2, wherein permitting association of duplicate dynamic transport identifiers for two or more of the data connections comprises determining that respective ranges of TCP sequence numbers of the two or more data connections
25 are different.
5. The method of claim 1, wherein permitting association of duplicate dynamic transport identifiers for the two or more data connections comprises determining that respective internet protocol addresses of the two or more data connections are
30 different.

6. A processor-implemented method, comprising:
- initiating a plurality of data connections between an associated plurality of processor arrangements and a first processor arrangement that are coupled via a network, each data connection having an associated network identifier
- 5 selecting dynamic transport identifiers from a set of reserved transport identifiers of the first processing arrangement;
- associating the dynamic transport identifiers with data connections;
- permitting association of duplicate dynamic transport identifiers with two or more of the data connections; and
- 10 resolving a destination for data received at the first processor arrangement from the two or more data connections based on the associated dynamic transport identifier and network identifier.
7. The method of claim 6, wherein the data connections comprise transmission
- 15 control protocol (TCP) connections.
8. The method of claim 7, wherein the dynamic transport identifiers comprise TCP ports.
- 20 9. The method of claim 7, wherein permitting association of duplicate dynamic transport identifiers for two or more of the data connections comprises determining that respective ranges of TCP sequence numbers of the two or more data connections are different.
- 25 10. The method of claim 6, wherein permitting association of duplicate dynamic transport identifiers for the two or more data connections comprises determining that respective internet protocol addresses of the two or more data connections are different.

11. A processor-implemented method, comprising:

initiating a data connection between a first processor arrangement and a second processor arrangement that are coupled via a network;

choosing a selected transport identifier for the first processor arrangement, the
5 selected transport identifier identifying the data connection between the first and second processor arrangements;

searching a collection of unique identifiers for a match to the selected transport identifier, wherein each unique identifier includes a transport identifier and a network identifier and is associated with an existing data connection of the first
10 processor arrangement; and

if no unique identifier of the collection has a transport identifier that matches the selected transport identifier and a network identifier that matches a network identifier of the second processor arrangement, then

allocating the transport identifier to the data connection;
15 forming a new unique identifier from the selected transport identifier and the network identifier of the second processor arrangement; and
adding the new unique identifier to the collection.

12. The method of claim 11, wherein the data connection comprises a
20 transmission control protocol (TCP) connection.

13. The method of claim 12, wherein the selected transport identifier comprises a TCP port.

25 14. The method of claim 12, wherein the network identifier of the remote computing device comprises a range of TCP sequence numbers of the data connection.

15. The method of claim 11, wherein the network identifier comprises an internet
30 protocol address of the second processor arrangement.

16. An apparatus, comprising:

a network interface for providing respective data connections between the apparatus and two or more remote data processing arrangements coupled to the apparatus via a network, the data connections using a network transport protocol; and

5 a processor arranged to

associate respective dynamic transport identifiers with the data connections;

permit association of duplicate dynamic transport identifiers for two or more of the data connections; and

10 resolve a destination for data received at the network interface from the two or more data connections based on the associated dynamic transport identifier and network identifier.

17. The computing apparatus of claim 16, wherein the network transport protocol
15 includes the transmission control protocol (TCP).

18. The apparatus of claim 17, wherein the dynamic transport identifiers comprise TCP ports.

20 19. The apparatus of claim 17, wherein the processor is arranged to permit association of duplicate dynamic transport identifiers for two or more of the data connections by determining that respective ranges of TCP sequence numbers of the two or more data connections are different.

25 20. The apparatus of claim 16, wherein the processor is arranged to permit association of duplicate dynamic transport identifiers for two or more of the data connections by determining that respective internet protocol addresses of the two or more data connections are different.

21. A computer-readable medium configured with instructions for causing a processor to perform steps comprising:

initiating a plurality of data connections between an associated plurality of processor arrangements and a first processor arrangement that are coupled via a

5 network, each data connection having an associated network identifier;

selecting dynamic transport identifiers from a set of reserved transport identifiers of the first processing arrangement;

associating respective dynamic transport identifiers with data connections of the first processor arrangement;

10 permitting association of duplicate dynamic transport identifiers with two or more of the data connections of the first processor arrangement; and

resolving a destination for data received at the first processor arrangement from the two or more data connections based on the associated dynamic transport identifier and network identifier.

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22. The computer-readable medium of claim 21, wherein the data connection comprises a transmission control protocol (TCP) connection.

23. The computer-readable medium of claim 22, wherein the dynamic transport
20 identifiers comprise TCP ports.

24. The computer-readable medium of claim 22, wherein permitting association of duplicate dynamic transport identifiers for two or more of the data connections comprises determining that respective ranges of TCP sequence numbers of the two or
25 more data connections are different.

25. The computer-readable medium of claim 21, wherein permitting association of duplicate dynamic transport identifiers for the two or more data connections comprises determining that respective internet protocol addresses of the two or more
30 data connections are different.

26. A system comprising:

network means for providing a plurality of data connections between a first processing arrangement and a plurality of processing arrangements;

5 data storage means for storing respective unique identifiers associated with the plurality of data connections, wherein each unique identifier includes a network identifier and a transport identifier dynamically allocated from a set of reserved identifiers of the first processing arrangement and;

10 processor means for allocating the transport identifiers for the first data processing arrangement, wherein the processor means is arranged to allocate duplicate transport identifiers for two or more of the plurality of data connections if the unique identifiers of the two or more data connections include different network identifiers.

27. The system of claim 26, wherein the data connections comprise transmission control protocol/internet protocol (TCP/IP) connections.

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28. The system of claim 27, wherein the transport identifiers comprise TCP ports.

29. The system of claim 27, wherein the network identifiers comprise ranges of TCP sequence numbers of the data connections.

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30. The system of claim 26, wherein the network identifiers comprise respective IP addresses of the plurality of processing arrangements.